Ron Gigliotti
Aero Metals, Inc.
402 Darlington Street
Laporte, IN 46350

Re: 091-11381-00120
First Significant Permit Revision to
FESOP No.: F091-5507-00074

Dear Mr. Gigliotti:

Aero Metals, Inc. was issued a FESOP permit on April 7, 1997 for operation of an investment casting foundry. A letter requesting changes to this permit was received on September 27, 1999. Pursuant to the provisions of 326 IAC 2-8-11.1 a significant permit revision to this permit is hereby approved as described in the attached Technical Support Document.

The following construction conditions are applicable to the proposed project:

1. General Construction Conditions
The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Management (OAM).

2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 (Revocation), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

The proposed Significant Permit Revision will be incorporated into the pending Part 70 permit application pursuant to 326 IAC 2-7-10.5(l)(3). If there are no changes to the proposed construction of the emission units, the source may begin operating on the date that IDEM receives an affidavit of construction pursuant to 326 IAC 2-7-10.5(h). If there are any changes to the proposed construction the source can not operate until an Operation Permit Validation Letter is issued.

That pursuant to the New Source Performance Standards (NSPS), Part 60.40c, Subpart Dc, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:

(a) Commencement of construction date (no later than 30 days after such date);

(b) Anticipated start-up date (not more than 60 days or less than 30 days prior to such date);

(c) Actual start-up date (within 15 days after such date); and

(d) Date of performance testing (at least 30 days prior to such date), when required by a condition elsewhere in this permit.

Reports are to be sent to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, IN 46206-6015

The application and enforcement of these standards have been delegated to the IDEM-OAM. The requirements of 40 CFR Part 60 are also federally enforceable.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Nishat Hydari, at 973-575-2555 (ext. 3216) or 1-800-451-6027 press 0 and ask for extension 3-6878.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

Attachments
NH/EVP
cc: File - Laporte County
U.S. EPA, Region V
Laporte County Health Department
Air Compliance Section Inspector - Rick Reynolds
Compliance Data Section - Jerri Curless
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michelle Boner

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) OFFICE OF AIR MANAGEMENT

Aero Metals, Inc.
402 Darlington Street
Laporte, Indiana 46350

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: F091-5507-00074	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date: April 7, 1997

First Significant Permit Revision: FSPR 091-11381-00120	Pages Affected: 2, 3, 4, 5, 5a, 5b, 6, 6a, 6b, 17a, 18, 18a, 41a, 41b, 41c, 41d, 41e, 41f, 41g, 41h, 41i, 41j, 41k, 41l, 41m, 41n, 41o, 41p, 41q, 41r, 41s, 44a
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

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SECTION A SOURCE SUMMARY

A.1 General Information

The Permittee owns and operates an investment casting foundry.

Responsible Official:	Ron Gigliotti
Source Address:	402 Darlington Street, LaPorte, Indiana, 46350
Mailing Address:	402 Darlington Street, LaPorte, Indiana, 46350
SIC Code:	3324
County Location:	LaPorte
County Status:	Partial nonattainment for primary SO_2, attainment for all remaining criteria pollutants
Source Status:	Synthetic Minor Source, FESOP Program

A.2 Emission Units and Pollution Control Summary

The stationary source consists of the following emission units and pollution control devices:

(a) six (6) electric induction melting furnaces with total rating physically constrained to 4,380 pounds metal per hour:

(1) two (2) electric induction melting furnaces individually rated at 730 pounds metal per hour and identified as EU7 and EU8, and two (2) electric induction melting furnaces individually rated at 1,460 pounds metal per hour and identified as EU9 and EU10, all controlled for particulate matter by one (1) cyclone, exhausting at one (1) stack identified as S/V7; and

(2) two (2) electric induction melting furnaces individually rated at 1,460 pounds metal per hour and identified as EU58 and EU59, with particulate matter controlled by one (1) cyclone, exhausting at one (1) stack identified as S/V21;

(b) six (6) natural gas fired wax burn-out ovens each rated at 0.55 million (MM) British thermal units (Btu) per hour and identified as EU2, EU3, EU4, EU5, EU60 and EU61, each exhausting through individual stacks respectively identified as S/V2, S/V3, S/V4, S/V5, S/V22 and S/V23;

(c) one (1) sodium hydroxide solution (caustic) metal parts cleaning unit rated at 1,263 pounds steel castings per hour and identified as EU1, with a wet scrubber for caustic fume control identified as AERO-421, exhausting at one (1) stack identified as S/V1;

(d) five (5) surface grinders identified as EU12 through EU16, nine (9) milling machines identified as EU17 through EU25, and two (2) Bridgeport CNC milling machines identified as EU26 and EU27, all controlled for particulate matter by one (1) baghouse identified as D-1, exhausting at one (1) stack identified as S/V9;

(e) one (1) 2-inch degater identified as EU28, one (1) degater machine identified as EU29, one (1) 2-head degater identified as EU30, and one (1) 4-inch degater machine identified as EU31, all controlled for particulate matter by one (1) cyclone and one (1) baghouse identified as D-2, exhausting at one (1) stack identified as S/V10;

(f) three (3) shot blasters identified as EU32, EU34 and EU41, four (4) friction saws identified as EU33, EU35, EU36 and EU37, and three (3) ceramic mold knock out machines identified as EU38, EU39, and EU40, all controlled for particulate matter by one (1) cyclone and one (1) baghouse identified as D-3, exhausting at one (1) stack identified as S/V11;

(g) four (4) sandblasters identified as EU42 through EU45, and one (1) 2-head degater, identified as EU46, all controlled for particulate matter by one (1) cyclone and one (1) baghouse identified as D-4, exhausting at one (1) stack identified as S/V12;

(h) two (2) silica sand rain fall units identified as EU49 and EU50, both controlled for particulate matter by one (1) cartridge type dust collector identified as MC3000-1, exhausting at one (1) stack identified as S/V15;

(i) three (3) fluidized sand beds identified as EU51, EU53, and EU54, and one (1) sand mix tank identified as EU52, with EU51 controlled for particulate matter by one (1) cartridge type dust collector identified as MC3000-2, exhausting through one (1) stack identified as S/V16, and EU52, EU53, and EU54 controlled for particulate matter by one (1) cartridge type dust collector identified as MC3000-3, exhausting through one (1) stack identified as S/V17;

(j) one (1) OKK CNC milling machine identified as EU56, controlled for particulate matter by one (1) baghouse, exhausting at one (1) stack identified as S/V19;

(k) four (4) natural gas-fired wax burn out ovens identified as EU-121 through EU-124, each with a maximum capacity of melting 68 pounds of wax per hour and a maximum heat input rate of 0.55 MMBtu per hour, exhausting through stacks SV-070 through SV-073, respectively;

(l) two (2) melt pots identified as EU-119 and EU-120, each with a maximum capacity of melting 1460 pounds of steel per hour, utilizing one (1) cyclone for particulate matter control, and exhausting through stack SV-069; and

(m) one (1) surface grinder identified as EU-012, utilizing one (1) dust collector for particulate matter control, and exhausting through stack SV-080.

Plant 2 consists of the following emission units and pollution control devices:

(a) four (4) surface grinders identified as EU-262 through EU-265, each with a maximum capacity of 0.05 pounds of steel per hour, seven (7) milling machines identified as EU-266 through EU-272, each with a maximum capacity of 0.10 pounds of steel per hour, one (1) CNC machine identified as EU-273, with a maximum capacity of 0.34 pounds of steel per hour, all utilizing one (1) cartridge unit for particulate matter control, and exhausting through stack SV-161;

(b) one (1) CNC machine identified as EU-274, with a maximum capacity of 0.23 pounds of carbon per hour, utilizing one (1) baghouse for particulate matter control, and exhausting at one (1) stack identified as SV-162;

(c) two (2) EDM mill machines identified as EU-275 and EU-277, each with a maximum capacity of 0.06 pounds of carbon per hour, and exhausting through stack SV-163;

(d) one (1) solvent wash tank identified as EU-276;

(e) one (1) sandblast cabinet system identified as EU-260, with a maximum capacity of 71.0 pounds of aluminum oxide per hour, utilizing one (1) cyclone for particulate matter control, and exhausting through stack SV-160;

(f) two (2) sandblasters identified as EU-286 and EU-287, each with a maximum capacity of 34.0 pounds of aluminum oxide per hour, utilizing one (1) baghouse for particulate matter control, and exhausting through stack SV-175;

(g) four (4) natural gas-fired wax burn out ovens identified as EU-282 through EU-285, each with a maximum capacity of melting 68 pounds of wax per hour and a maximum heat input rate of 0.55 MMBtu per hour, exhausting through stacks SV-171 through SV-174, respectively;

(h) one (1) natural gas-fired boiler (for backup use only) identified as EU-259, with a maximum heat input rate of 12.553 MMBtu per hour, and exhausting through stack SV-159;

(i) eight (8) natural gas-fired heaters identified as EU-251 through EU-258, each with a maximum heat input rate of 0.58 MMBtu per hour, and exhausting through stacks SV-151 through SV-158, respectively;

(j) one (1) natural gas-fired office heater identified as EU-250, with a maximum heat input rate of 2.2 MMBtu per hour, and exhausting through stack SV-150;

(k) one (1) natural gas-fired heater identified as EU-251, with a maximum heat input rate of 0.4 MMBtu per hour, and exhausting through stack SV-151;

(l) two (2) natural gas-fired water heaters identified as EU-278 and EU-279, each with a maximum heat input rate of 0.08 MMBtu per hour, and exhausting through stacks SV-164 and SV-165, respectively; and

(m) two (2) melt pots identified as EU-280 and EU-281, each with a maximum capacity of melting 1460 pounds of steel per hour, utilizing one (1) cyclone for particulate matter control, and exhausting through stack SV-166.

A.3 Insignificant Activities

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(20):

(a) natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour. This includes one (1) furnace rated at 0.58 MMBtu per hour, four (4) furnaces each rated at 0.075 MMBtu per hour, twelve (12) heaters each rated at 0.10 MMBtu per hour, and one (1) boiler system rated at 3.35 MMBtu per hour;

(b) the following VOC and HAP storage containers: vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids;

(c) machining where an aqueous cutting coolant continuously floods the machining interface;

(d) degreasing operations that do not exceed 145 gallons per 12 months, except if subject to

326 IAC 20-6;

(e) the following equipment related to manufacturing activities not resulting in the emission of hazardous air pollutants: brazing equipment, cutting torches, soldering equipment, and welding equipment;

(f) any operation using aqueous solutions containing less than 1 percent by weight of VOCs excluding HAPs;

(g) replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment;

(h) paved and unpaved roads and parking lots with public access;

(i) nineteen (19) miscellaneous belt sanders, grinders, saws, and degaters with particulate matter emissions below 5 pounds per hour. This includes Burr King belt sander (Aero-0703), Roboform EDM (Aero-0700), SBL EDM (Aero-0701), grinder (Aero-0702), Blador grinder (Aero-0273), band saw (Aero-0250), Cincinnati grinder (Aero-0445), Burr King belt sander (Aero-0463), 9-inch degater (Aero-0422), 9-inch degater (Aero-0422B), 8-inch degater (Aero-0423), Burr King belt sander (Aero-0539), six station degater (Aero-0424), automatic degater (Aero-0444), 6-inch belt sander (Aero-0704), Delta band saw (Aero-0372), and three Burr King belt sanders (Aero-0449, Aero-0376, and Aero-0516);

(j) one (1) solvent based wax pattern cleaning operation utilizing Nalco Wax Cleaner or equivalent;

(k) twelve (12) work benches using trichloroethylene for wax repair;

(l) twelve (12) heat torches to melt wax;

(m) eight (8) 48-inch ceiling fans;

(n) one (1) 12-inch gas food grill vent;

(o) eighteen (18) non-volatiles/non-particulate matter emitting injection molders; and

(p) one (1) steam autoclave wax melter.

This stationary source (Plant 2) also includes the following insignificant activities, as defined in 326 IAC 2-7-1 (20):

(a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour;

(b) Combustion source flame safety purging on startup;

(c) The following VOC and HAP storage containers:

(1) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons;

(2) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids;

(d) Equipment used exclusively for the following:

(1) Packaging lubricants and greases;

(2) Filling drums, pails or other packaging containers with lubricating oils, waxes, and greases;

(e) Machining where an aqueous cutting coolant continuously floods the machining interface;

(f) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6;

(g) Cleaners and solvents characterized as follows:

(1) Having a vapor pressure equal to or less than 2kPa; 15mm Hg; or 0.3 psi measured at 38 degrees C (100EF) or;

(2) Having a vapor pressure equal to or less than 0.7 kPa; 5 mm Hg; or 0.1 psi measured at 20EC (68EF); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months;

(h) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment;

(i) Closed loop heating and cooling systems;

(j) Any operation using aqueous solutions containing less than 1% by weight of VOCs excluding HAPs;

(k) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment;

(l) Heat exchanger cleaning and repair;

(m) Trimmers that do not produce fugitive emissions and that are equipped with a dust collection or trim material recovery device such as a bag filter or cyclone;

(n) Paved or unpaved roads and parking lots with public access;

(o) Purging of gas lines and vessels that is related to routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process;

(p) Blowdown for any of the following: sight glass; boiler; compressors; pump; and cooling tower;

(q) Stationary fire pumps;

(r) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations; and

(s) Any unit emitting greater than 1 pound per day but less than 5 pounds per day or 1 ton per year of a single HAP:

(1) Trichloroethylene use for general parts cleaning.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to apply for a Part 70 permit within 12 months of submission of the Affidavit of Construction by 326 IAC 2-8-19 because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONSTRUCTION CONDITIONS

B.1 Permit No Defense [IC 13]

This approval to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions [326 IAC 2-7-1]

Terms in this approval shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2 and 326 IAC 2-7 shall prevail.

B.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

B.4 Revocation of Permits [326 IAC 2-1.1-9(5)][326 IAC 2-7-10.5(i)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.5 Significant Source Modification [326 IAC 2-7-10.5(h)] [326 IAC 2-7-2(d)]

This document shall also become the approval to operate pursuant to 326 IAC 2-7-10.5(h) when, prior to start of operation, the following requirements are met:

(a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the emission units were constructed as proposed in the application. The emissions units covered in the Significant Source Modification approval may begin operating on the date the affidavit of construction is postmarked or hand delivered to IDEM if constructed as proposed.

(b) If actual construction of the emissions units differs from the construction proposed in the application, the source may not begin operation until the source modification has been revised pursuant to 326 IAC 2-7-11 or 326 IAC 2-7-12 and an Operation Permit Validation Letter is issued.

(c) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.

(d) The Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emissions Limitations [326 IAC 2-8-4(1)]

C.1 Overall Source Limit [326 IAC 2-8]

(a) The purpose of this permit is to limit the source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(1) Pursuant to 326 IAC 2-8:

(i) The potential to emit any regulated pollutant from the units in Section D.1 - D.9 of FESOP #091-5507-00074 issued on April 7, 1997 shall be limited to less than one-hundred (100) tons per twelve (12) consecutive month period.

(ii) The potential to emit any individual hazardous air pollutant (HAP) from the units in Section D.1 - D.9 of FESOP #091-5507-00074 issued on April 7, 1997 shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and

(iii) The potential to emit any combination of HAPs from the units in Section D.1 - D.9 of FESOP #091-5507-00074 issued on April 7, 1997 shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(2) This condition shall include units in Section D.1 - D.9 of FESOP #091-5507-00074 issued on April 7, 1997 including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(3) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

(b) Pursuant to 326 IAC 2-8-11.1(f)(B) Section D.10 - D.15 are not required to comply with this condition. The source will be subject to the Part 70 permit program when operation of the equipment listed in D.10 - D.15 begins.

C.2 Opacity

Pursuant to 326 IAC 5-1-2 (Visible Emissions Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), visible emissions shall meet the following:

(a) Visible emissions shall not exceed an average of 40 percent opacity in 24 consecutive readings,

(b) Visible emissions shall not exceed 60 percent opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.

C.3 Open Burning

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6.

C.4 Fugitive Dust Emissions

The Permittee shall be in violation of 326 IAC 6-4 if any of the criteria specified in 326 IAC 6-4-2 (1) through (4) are violated.

C.5 Operation of Equipment [326 IAC 2-8-5(a)(4)]

(a) All equipment that potentially might emit pollutants into the ambient air shall be properly operated and maintained.

(b) Unless otherwise stated in this permit, all air pollution control equipment listed in this permit shall be operated at all times that the emission unit(s) vented to the control equipment is in operation.

(c) The permittee shall perform all necessary maintenance and make all necessary attempts to keep all air pollution control equipment in proper operating condition at all times.

SECTION D.10 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:
(a) four (4) surface grinders identified as EU-262 through EU-265, each with a maximum capacity of 0.05 pounds of steel per hour, seven (7) milling machines identified as EU-266 through EU-272, each with a maximum capacity of 0.10 pounds of steel per hour, one (1) CNC machine identified as EU-273, with a maximum capacity of 0.34 pounds of steel per hour, all utilizing one (1) cartridge unit for particulate matter control, and exhausting through stack SV-161;
(b) one (1) CNC machine identified as EU-274, with a maximum capacity of 0.23 pounds of carbon per hour, utilizing one (1) baghouse for particulate matter control, and exhausting at one (1) stack identified as SV-162; and
(c) two (2) EDM mill machines each rated at 0.06 pounds per hour and identified as EU-275 and EU-277, exhausting at one (1) stack identified as SV-163.
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emissions Limitations and Standards [326 IAC 2-8-4(1)]

D.10.1 Particulate Matter (PM) [326 IAC 6-3]

(a) Pursuant to 326 IAC 6-3-2 (Process Operations), particulate matter (PM) from the four (4) surface grinders (EU-262 through EU-265), seven (7) milling machines (EU-266 through EU-272), and the one (1) CNC milling machine (EU-273) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10*(6.2E\text{-}4)^{0.67} = 0.03$ lbs PM/hour

Based on the above equation, particulate matter emissions from the four (4) surface grinders, seven (7) milling machines, and the one (1) CNC milling machine shall be limited to 0.03 pounds per hour.

(b) Pursuant to 326 IAC 6-3-2 (Process Operations), particulate matter (PM) from the one (1) CNC machine (EU-274) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10*(1.15E\text{-}4)^{0.67} = 0.01$ lbs PM/hour

Based on the above equation, particulate matter emissions from the one (1) CNC machine shall be limited to 0.01 pounds per hour.

(c) Pursuant to 326 IAC 6-3-2 (Process Operations), particulate matter (PM) from the two (2)

EDM milling machines (EU-275 and EU-277) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10*(6E\text{-}5)^{0.67} = 6.08E\text{-}3$ lbs PM/hour

Based on the above equation, particulate matter emissions from the two (2) EDM milling machines shall be limited to 6.08E-3 pounds per hour.

Compliance Determination Requirements

D.10.2 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the limit specified in Condition D.10.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.10.3 Particulate Matter (PM)

The baghouses for PM control shall be in operation at all times that the four (4) surface grinders, seven (7) milling machines, one (1) CNC milling machine (EU-273) and one (1) CNC machine (EU-274) are in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.10.4 Visible Emissions Notations

(a) Daily visible emission notations of the four (4) surface grinders, seven (7) milling machines, one (1) CNC milling machine (EU-273) and one (1) CNC machine (EU-274) stack exhausts shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.10.5 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse used in conjunction

with the one (1) CNC machine (EU-274), at least once weekly when the one (1) CNC machine (EU-274) is in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 1.0 and 6.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

D.10.6 Baghouse Inspections

An inspection shall be performed each calender quarter of all bags controlling the one (1) CNC machine (EU-274) when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.10.7 Broken or Failed Bag Detection

In the event that bag failure has been observed:

(a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.10.8 Record Keeping Requirements

(a) To document compliance with Condition D.10.3 the Permittee shall maintain records of daily visible emission notations of the four (4) surface grinders, seven (7) milling machines, one (1) CNC milling machine (EU-273) and one (1) CNC machine (EU-274) stack exhaust.

(b) To document compliance with Condition D.10.4, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle: frequency and differential pressure

(2) Documentation of all response steps implemented, per event .

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(8) Documentation of the dates vents are redirected.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.10.9 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.10.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

SECTION D.11 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:
(d) one (1) solvent wash tank identified as EU-276.
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Degreasing Operations

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.11.1 Volatile Organic Compounds (VOC)

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), the owner or operator shall:

(a) Equip the cleaner with a cover;

(b) Equip the cleaner with a facility for draining cleaned parts;

(c) Close the degreaser cover whenever parts are not being handled in the cleaner;

(d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(e) Provide a permanent, conspicuous label summarizing the operation requirements;

(f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

D.11.2 Volatile Organic Compounds (VOC)

(a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaner degreaser facility shall ensure that the following control equipment requirements are met:

(1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

(A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius ($38^{O}C$) (one hundred degrees Fahrenheit ($100^{O}F$));

(B) The solvent is agitated; or

(C) The solvent is heated.

(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38^{O}C) (one hundred degrees Fahrenheit (100^{O}F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).

(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38^{O}C) (one hundred degrees Fahrenheit (100^{O}F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9^{O}C) (one hundred twenty degrees Fahrenheit (120^{O}F)):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent is used is insoluble in, and heavier than, water.

(C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

(b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility shall ensure that the following operating requirements are met:

(1) Close the cover whenever articles are not being handled in the degreaser.

(2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.

(3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

SECTION D.12 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:
(e) one (1) sandblast cabinet system identified as EU-260, with a maximum capacity of 71.0 pounds of aluminum oxide per hour, utilizing one (1) cyclone for particulate matter control, and exhausting through stack SV-160.
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emissions Limitations and Standards [326 IAC 2-8-4(1)]

D.12.1 Particulate Matter (PM) 326 IAC 6-3]

Pursuant to 326 IAC 6-3-2 (Process Operations), particulate matter (PM) from the one (1) sandblast cabinet system (EU-260) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10*(0.0355)^{0.67} = 0.44$ lbs PM/hour

Based on the above equation, particulate matter emissions from the one (1) sandblast cabinet system shall be limited to 0.44 pounds per hour.

Compliance Determination Requirements

D.12.2 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D12.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.12.3 Particulate Matter (PM)

The cyclone for PM control shall be in operation at all times that the one (1) sandblast cabinet system (EU-260) is in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.12.4 Visible Emissions Notations

(a) Daily visible emission notations of the one (1) sandblast cabinet system stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.12.5 Cyclone Inspections

An inspection shall be performed each calender quarter of all cyclones controlling the woodworking operation when venting to the atmosphere. A cyclone inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors.

D.12.6 Cyclone Failure Detection

In the event that cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.12.7 Record Keeping Requirements

(a) To document compliance with Condition D.12.3, the Permittee shall maintain records of daily visible emission notations of the one (1) sandblast cabinet system stack exhaust.

(b) To document compliance with Condition D.12.4, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle: frequency and differential pressure

(2) Documentation of all response steps implemented, per event .

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.
(7) Equipment "troubleshooting" contingency plan.

(8) Documentation of the dates vents are redirected.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.12.8 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.12.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

SECTION D.13 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:
(f) two (2) sandblasters identified as EU-286 and EU-287, each with a maximum capacity of 34.0 pounds of aluminum oxide per hour, utilizing one (1) baghouse for particulate matter control, and exhausting through stack SV-175.
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.13.1 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3-2 (Process Operations), particulate matter (PM) from the two (2) sandblasters (EU-286 and EU-287) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10*(0.034)^{0.67} = 0.43$ lbs PM/hour

Based on the above equation, particulate matter emissions from the two (2) sandblasters shall be limited to 0.43 pounds per hour.

Compliance Determination Requirements

D.13.2 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.13.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.13.3 Particulate Matter (PM)

The baghouse for PM control shall be in operation at all times that the two (2) sandblasters (EU-286 and EU-287) are in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.13.4 Visible Emissions Notations

(a) Daily visible emission notations of the two (2) sandblasters stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month

and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.13.5 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the two (2) sandblasters, at least once weekly when the two (2) sandblasters are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 0.5 and 3.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

D.13.6 Baghouse Inspections

An inspection shall be performed each calender quarter of all bags controlling the two (2) sandblasters when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.13.7 Broken or Failed Bag Detection

In the event that bag failure has been observed:

(a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.13.8 Record Keeping Requirements

(a) To document compliance with Condition D.13.3, the Permittee shall maintain records of daily visible emission notations of the two (2) sandblasters stack exhaust.

(b) To document compliance with Condition D.13.4, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle: frequency and differential pressure

(2) Documentation of all response steps implemented, per event .

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(8) Documentation of the dates vents are redirected.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.13.9 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.13.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

SECTION D.14 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:
(g) four (4) natural gas-fired wax burn out ovens identified as EU-282 through EU-285, each with a maximum capacity of melting 68 pounds of wax per hour and a maximum heat input rate of 0.55 MMBtu per hour, exhausting through stacks SV-171 through SV-174, respectively; and

Plant 1's four (4) natural gas-fired wax burn out ovens identified as EU-121 through EU-124, each with a maximum capacity of melting 68 pounds of wax per hour and a maximum heat input rate of 0.55 MMBtu per hour, exhausting through stacks SV-070 through SV-073, respectively.
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.14.1 Particulate Matter Limitation (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3-2 (Process Operations), particulate matter (PM) from the four (4) wax burn out ovens (EU-282 through EU-285) and the four (4) wax burn out ovens (EU-121 through EU-124) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10*(0.272)^{0.67} = 1.71$ lbs PM/hour

Based on the above equation, particulate matter emissions from the four (4) wax burn out ovens (EU-282 through EU-285) and the four (4) wax burn out ovens (EU-121 through EU-124) shall be limited to 1.71 pounds per hour.

Compliance Determination Requirements

D.14.2 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.14.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

Reporting Requirements [326 IAC 2-7-19]

D.14.3 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.14.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

SECTION D.15 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

(h) one (1) natural gas-fired boiler (for backup use only) identified as EU-259, with a maximum heat input rate of 12.553 MMBtu per hour, and exhausting through stack SV-159;

(i) eight (8) natural gas-fired heaters identified as EU-251 through EU-258, each with a maximum heat input rate of 0.58 MMBtu per hour, and exhausting through stacks SV-151 through SV-158, respectively;

(j) one (1) natural gas-fired office heater identified as EU-250, with a maximum heat input rate of 2.2 MMBtu per hour, and exhausting through stack SV-150;

(k) one (1) natural gas-fired heater identified as EU-251, with a maximum heat input rate of 0.4 MMBtu per hour, and exhausting through stack SV-151;

(l) two (2) natural gas-fired water heaters identified as EU-278 and EU-279, each with a maximum heat input rate of 0.08 MMBtu per hour, and exhausting through stacks SV-164 and SV-165, respectively;

(m) two (2) melt pots identified as EU-280 and EU-281, each with a maximum capacity of melting 1460 pounds of steel per hour, utilizing one (1) cyclone for particulate matter control, and exhausting through stack SV-166; and

Plant 1's two (2) melt pots identified as EU-119 and EU-120, each with a maximum capacity of melting 1460 pounds of steel per hour, utilizing one (1) cyclone for particulate matter control, and exhausting through stack SV-069.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.15.1 Particulate Matter Limitation (PM)

(a) Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), particulate matter (PM) from the one (1) natural gas-fired boiler (EU-259) shall be limited by the following:

$Pt = 1.09/Q^{0.26}$

where: Pt = maximum allowable particulate matter (PM) emitted per MMBtu heat input
Q = total source max. indirect heater input = boiler EU-259 = 12.553 MMBtu/hr

$Pt = 1.09/12.553^{0.26} = 0.56$ lbs PM/MMBtu

Therefore, the boiler is limited to 0.56 lbs PM/MMBtu

(b) Pursuant to 326 IAC 6-3-2 (Process Operations), particulate matter (PM) from the two (2) melt pots (EU-280 and EU-281) and the two (2) melt pots (EU-119 and EU-120) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

$$E = 4.10*(2.92)^{0.67} = 8.41 \text{ lbs PM/hour}$$

Based on the above equation, particulate matter emissions from the two (2) melt pots (EU-280 and EU-281) and the two (2) melt pots (EU-119 and EU-120) shall be limited to 8.41 pounds per hour.

D.15.2 Natural Gas Fuel

The one (1) boiler (EU-259) rated at 12.553 million Btu per hour, shall use only natural gas fuel.

Compliance Determination Requirements

D.15.3 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D15.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.15.4 Particulate Matter (PM)

The cyclones for PM control shall be in operation at all times that the two (2) melt pots (EU-280 and EU-281) and the two (2) melt pots (EU-119 and EU-120) are in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.15.5 Visible Emissions Notations

(a) Daily visible emission notations of the four (4) melt pot stack exhausts shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.15.6 Cyclone Inspections

An inspection shall be performed each calender quarter of all cyclones controlling the melt pot operation when venting to the atmosphere. A cyclone inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors.

D.15.7 Cyclone Failure Detection

In the event that cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.15.8 Record Keeping Requirements

(a) To document compliance with Condition D.15.4, the Permittee shall maintain records of daily visible emission notations of the four (4) melt pot stack exhausts.

(b) To document compliance with Condition D.15.5, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle: frequency and differential pressure

(2) Documentation of all response steps implemented, per event .

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(8) Documentation of the dates vents are redirected.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.15.9 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.15.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

SECTION D.16 FACILITY CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

(a) four (4) surface grinders identified as EU-262 through EU-265, each with a maximum capacity of 0.05 pounds of steel per hour, seven (7) milling machines identified as EU-266 through EU-272, each with a maximum capacity of 0.10 pounds of steel per hour, one (1) CNC machine identified as EU-273, with a maximum capacity of 0.34 pounds of steel per hour, all utilizing one (1) cartridge unit for particulate matter control, and exhausting through stack SV-161;

(b) one (1) CNC machine identified as EU-274, with a maximum capacity of 0.23 pounds of carbon per hour, utilizing one (1) baghouse for particulate matter control, and exhausting at one (1) stack identified as SV-162;

(c) two (2) EDM mill machines each rated at 0.06 pounds per hour and identified as EU-275 and EU-277, exhausting at one (1) stack identified as SV-163;

(d) one (1) solvent wash tank identified as EU-276;

(e) one (1) sandblast cabinet system identified as EU-260, with a maximum capacity of 71.0 pounds of aluminum oxide per hour, utilizing one (1) cyclone for particulate matter control, and exhausting through stack SV-160;

(f) two (2) sandblasters identified as EU-286 and EU-287, each with a maximum capacity of 34.0 pounds of aluminum oxide per hour, utilizing one (1) baghouse for particulate matter control, and exhausting through stack SV-175;

(g) four (4) natural gas-fired wax burn out ovens identified as EU-282 through EU-285, each with a maximum capacity of melting 68 pounds of wax per hour and a maximum heat input rate of 0.55 MMBtu per hour, exhausting through stacks SV-171 through SV-174, respectively;

Plant 1's four (4) natural gas-fired wax burn out ovens identified as EU-121 through EU-124, each with a maximum capacity of melting 68 pounds of wax per hour and a maximum heat input rate of 0.55 MMBtu per hour, exhausting through stacks SV-070 through SV-073, respectively;

(h) one (1) natural gas-fired boiler (for backup use only) identified as EU-259, with a maximum heat input rate of 12.553 MMBtu per hour, and exhausting through stack SV-159;

(i) eight (8) natural gas-fired heaters identified as EU-251 through EU-258, each with a maximum heat input rate of 0.58 MMBtu per hour, and exhausting through stacks SV-151 through SV-158, respectively;

(j) one (1) natural gas-fired office heater identified as EU-250, with a maximum heat input rate of 2.2 MMBtu per hour, and exhausting through stack SV-150;

(k) one (1) natural gas-fired heater identified as EU-251, with a maximum heat input rate of 0.4 MMBtu per hour, and exhausting through stack SV-151;

(l) two (2) natural gas-fired water heaters identified as EU-278 and EU-279, each with a maximum heat input rate of 0.08 MMBtu per hour, and exhausting through stacks SV-164 and SV-165, respectively;

(m) two (2) melt pots identified as EU-280 and EU-281, each with a maximum capacity of melting 1460 pounds of steel per hour, utilizing one (1) cyclone for particulate matter control, and exhausting through stack SV-166; and

Plant 1's two (2) melt pots identified as EU-119 and EU-120, each with a maximum capacity of melting 1460 pounds of steel per hour, utilizing one (1) cyclone for particulate matter control, and exhausting through stack SV-069.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1 AND 326 IAC 2-8-11.1, WITH CONDITIONS LISTED BELOW.

Construction Conditions

General Construction Conditions

D.16.1 This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

Effective Date of the Permit

D.16.2 Pursuant to IC 13-15-5-3, this section of this permit becomes effective upon its issuance.

D.16.3 All requirements of these construction conditions shall remain in effect unless modified in a manner consistent with procedures established for revisions pursuant to 326 IAC 2.

Operation Conditions

Note: For operating conditions, please refer to Sections D.10 through D.15.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
NATURAL GAS FIRED BOILER CERTIFICATION

Source Name: Aero Metals, Inc.
Source Address: 1201 E. Lincolnway, Laporte, IN 46350
Mailing Address: 402 Darlington Street, Laporte, IN 46350
FESOP Permit No.: F091-11381-00120

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Report period
Beginning: _____
Ending: _____

Boiler Affected	Alternate Fuel	Days burning alternate fuel From	To

(can omit boiler affected if only one gas boiler at this plant)

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

Indiana Department of Environmental Management
Office of Air Management

Addendum to the
Technical Support Document for a Significant Permit Revision to a Federally Enforceable State Operating Permit (FESOP)

Source Name:	**Aero Metals, Inc.**
Source Location:	**1201 E. Lincolnway and 402 Darlington Street Laporte, IN 46350**
SIC Code:	**3324**
County:	**Laporte**
Operation Permit No.:	**FSPR091-11381-00120**
Permit Reviewer:	**Nishat Hydari /EVP**

On February 14, 2000, the Office of Air Management (OAM) had a notice published in the Laporte Herald-Argus, Laporte, Indiana, stating that Aero Metals, Inc. had applied for a Significant Permit Revision to a Federally Enforceable State Operating Permit (FESOP) to construct and operate an investment casting foundry. The notice also stated that OAM proposed to issue a FESOP Significant Permit Revision for this operation and provided information on how the public could review the proposed FESOP and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this FESOP should be issued as proposed.

On March 27, 2000, Laurence A. McHugh from Barnes & Thornburg submitted comments on behalf of Aero Metals, Inc. on the proposed FESOP Significant Permit Revision. The summary of the comments and corresponding responses is as follows (bolded language has been added, the language with a line through it has been deleted):

Comment # 1

In Section D.10, all units described therein which exhaust through stacks SV-161, 162, and 163 vent to the inside of the building, and are therefore not subject to 326 IAC 6-3, or 326 IAC 5-1. Therefore, Section D.10 should be deleted in its entirety.

Response # 1

Rules 326 IAC 6-3 and 326 IAC 5-1 are applicable to processes whether they vent inside or outside the building. Therefore, PM emissions can escape to the atmosphere even if the emissions are vented to the inside of the building thru openings and vents. 326 IAC 6-3 does apply to the units described in Section D.10. No changes were made to the permit as a result of this comment.

Comment # 2

In Section D.12, the sandblast cabinet system (EU-260) which exhausts through SV-160, also exhausts indoors. Section D.12 should be deleted in its entirety.

Response # 2

Section D.12 cannot be deleted in its entirety due to the same reasons as listed in Response # 1. No changes were made to the permit as a result of this comment.

Comment # 3

In Section D.13, the sandblasters (EU-286, 287) which exhaust through SV-175, also exhaust indoors. Section D.13 should be deleted in its entirety.

Response # 3

Section D.13 cannot be deleted in its entirety due to the same reasons as listed in Response # 1. No changes were made to the permit as a result of this comment.

Comment # 4

In Section D.10, there are only four surface grinders (EU-262-265). The collector is a cartridge unit-not a baghouse.

Response # 4

All applicable conditions in Section D.10 have been revised to reflect the change in the number of grinders and the collector being a cartridge unit.

The following changes have been made to Section A.2 under plant 2.

(a) ~~five (5)~~ **four (4)** surface grinders identified as EU-26~~1~~**2** through EU-265, each with a maximum capacity of 0.05 pounds of steel per hour, seven (7) milling machines identified as EU-266 through EU-272, each with a maximum capacity of 0.10 pounds of steel per hour, one (1) CNC machine identified as EU-273, with a maximum capacity of 0.34 pounds of steel per hour, all utilizing one (1) ~~baghouse~~ **cartridge unit** for particulate matter control, and exhausting through stack SV-161;

The following changes have been made to the Facility Description in Section D.10.

Facility Description [326 IAC 2-7-5(15)]:

(a) ~~five (5)~~ **four (4)** surface grinders identified as EU-26~~1~~**2** through EU-265, each with a maximum capacity of 0.05 pounds of steel per hour, seven (7) milling machines identified as EU-266 through EU-272, each with a maximum capacity of 0.10 pounds of steel per hour, one (1) CNC machine identified as EU-273, with a maximum capacity of 0.34 pounds of steel per hour, all utilizing one (1) ~~baghouse~~ **cartridge unit** for particulate matter control, and exhausting through stack SV-161;

The following changes have been made to conditions in Section D.10.

D.10.1 Particulate Matter (PM) [326 IAC 6-3]

(a) Pursuant to 326 IAC 6-3-2 (Process Operations), particulate matter (PM) from the ~~five (5)~~ **four (4)** surface grinders (EU-26~~1~~**2** through EU-265), seven (7) milling machines (EU-266 through EU-272), and the one (1) CNC milling machine (EU-273) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10*(\text{~~6.45~~ } \mathbf{6.2}\ E\text{-}4)^{0.67} = 0.03$ lbs PM/hour

Based on the above equation, particulate matter emissions from the ~~five (5)~~ **four (4)** surface grinders, seven (7) milling machines, and the one (1) CNC milling machine shall be limited to 0.03 pounds per hour.

D.10.3 Particulate Matter (PM)

The baghouse~~s~~ for PM control shall be in operation at all times that the ~~the five (5) surface grinders, seven (7) milling machines, one (1) CNC milling machine (EU-273) and~~ one (1) CNC machine (EU-274) are in operation.

D.10.4 Visible Emissions Notations

(a) Daily visible emission notations of the ~~five (5)~~ **four (4)** surface grinders, seven (7) milling machines, one (1) CNC milling machine (EU-273) and one (1) CNC machine (EU-274) stack exhausts shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

D.10.5 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse~~s~~ used in conjunction with the ~~five (5) surface grinders, seven (7) milling machines, one (1) CNC milling machine (EU-273) and~~ one (1) CNC machine (EU-274), at least once weekly when the ~~five (5) surface grinders, seven (7) milling machines, one (1) CNC milling machine (EU-273) and~~ one (1) CNC machine (EU-274) ~~are~~ **is** in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse~~s~~ shall be maintained within the range of 1.0 and 6.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

D.10.8 Record Keeping Requirements

(a) To document compliance with Condition D.10.3 the Permittee shall maintain records of daily visible emission notations of the ~~five (5)~~ **four (4)** surface grinders, seven (7) milling machines, one (1) CNC milling machine (EU-273) and one (1) CNC machine (EU-274) stack exhaust.

Comment # 5

The units described in Sections D.10 and D.13 all have process weight rates below 100 lbs/hr and are not subject to 326 IAC 6-3.

Response # 5

This rule is applicable to any process that has the potential to emit Particulate Matter (PM) less than 100 lbs/hr. OAM has determined that processes with process weight rates of 100 lbs/hr and less shall not exceed 0.551 pounds per hour. . There will be no changes to this condition in the final permit due to this comment.

Comment # 6

In Section D.10.5, the cartridges do not have external pressure gauges, and pressure-drop ranges are meaningless.

Response # 6

The four (4) surface grinders, seven (7) milling machines, one (1) CNC milling machine (identified as EU-273) are controlled by a cartridge and thus the pressure drop ranges are meaningless for these units. These units will be deleted from Section D.10.5. Section D.10.5 will not be deleted in its entirety because the one (1) CNC machine (identified as EU-274) uses a baghouse for particulate matter control. The following changes have been made to Section D.10.5 as a result of this comment.

D.10.5 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse~~s~~ used in conjunction with the ~~five (5) surface grinders, seven (7) milling machines, one (1) CNC milling machine (EU-273) and~~ one (1) CNC machine (EU-274), at least once weekly when the ~~five (5) surface grinders, seven (7) milling machines, one (1) CNC milling machine (EU-273) and~~ one (1) CNC machine (EU-274) ~~are~~ **is** in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse~~s~~ shall be maintained within the range of 1.0 and 6.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

Comment # 7

Re Section D.10.6, there are no woodworking operations.

Response # 7

The following changes have been made to Section D.10.6 in the permit.

D.10.6 Baghouse Inspections

An inspection shall be performed each calender quarter of all bags controlling the ~~woodworking operation~~ **one (1) CNC machine (EU-274)** when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

Comment # 8

The CNC milling machine machines carbon, not steel, and only 0.23 lbs/hr.

Response # 8

All applicable conditions in Section D.10 have been revised to reflect the throughput rate of the CNC milling machine that machines carbon.

The following changes have been made to Section A.2 under plant 2.

(b) one (1) CNC machine identified as EU-274, with a maximum capacity of ~~0.34~~ **0.23** pounds of ~~steel~~ **carbon** per hour, utilizing one (1) baghouse for particulate matter control, and exhausting at one (1) stack identified as SV-162;

The following changes have been made to the facility description in Section D.10

(b) one (1) CNC machine identified as EU-274, with a maximum capacity of ~~0.34~~ **0.23** pounds of ~~steel~~ **carbon** per hour, utilizing one (1) baghouse for particulate matter control, and exhausting at one (1) stack identified as SV-162; and

The following changes have been made to Section D.10.1.

(b) Pursuant to 326 IAC 6-3-2 (Process Operations), particulate matter (PM) from the one (1) CNC machine (EU-274) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10*(\text{~~1.7E-4~~}\mathbf{1.15E\text{-}4})^{0.67} = 0.01$ lbs PM/hour

Based on the above equation, particulate matter emissions from the one (1) CNC machine shall be limited to 0.01 pounds per hour.

Comment # 9

Add one (1) surface grinder (EU-012, Plant 1 East, Darlington) with a dust collector identified as SV-080.

Response # 9

The surface grinder has been added to Section A.2.

(k) four (4) natural gas-fired wax burn out ovens identified as EU-121 through EU-124, each with a maximum capacity of melting 68 pounds of wax per hour and a maximum heat input rate of 0.55 MMBtu per hour, exhausting through stacks SV-070 through SV-073, respectively; ~~and~~

(l) two (2) melt pots identified as EU-119 and EU-120, each with a maximum capacity of melting 1460 pounds of steel per hour, utilizing one (1) cyclone for particulate matter

control, and exhausting through stack SV-069~~.~~**; and**

(m) one (1) surface grinder identified as EU-012, utilizing one (1) dust collector for particulate matter control, and exhausting through stack SV-080.

Comment # 10

In subparagraph (i) of Section A.2 for Plant 2, it should read eight (8) gas-fired heaters (EU-251-258, and SV-151-158). In subparagraph (l), the two water heaters are 80,000 Btu, not 800,000.

Response # 10

No new rules or condition changes are applicable to the heaters due to their change in capacity. The following changes have been made to the Section A.2 of the permit.

(i) ~~seven (7)~~ **eight (8)** natural gas-fired heaters identified as EU-25~~2~~**1** through EU-258, each with a maximum heat input rate of 0.58 MMBtu per hour, and exhausting through stacks SV-15~~2~~**1** through SV-15~~9~~**8**, respectively;

(l) two (2) natural gas-fired water heaters identified as EU-278 and EU-279, each with a maximum heat input rate of ~~0.8~~ **0.08** MMBtu per hour, and exhausting through stacks SV-164 and SV-165, respectively; and

The facility description in Section D.15 has been revised to reflect the changes.

Facility Description [326 IAC 2-7-5(15)]:

(h) one (1) natural gas-fired boiler (for backup use only) identified as EU-259, with a maximum heat input rate of 12.553 MMBtu per hour, and exhausting through stack SV-159;

(i) ~~seven (7)~~ **eight (8)** natural gas-fired heaters identified as EU-25~~2~~**1** through EU-258, each with a maximum heat input rate of 0.58 MMBtu per hour, and exhausting through stacks SV-15~~2~~**1** through SV-15~~9~~**8**, respectively;

(j) one (1) natural gas-fired office heater identified as EU-250, with a maximum heat input rate of 2.2 MMBtu per hour, and exhausting through stack SV-150;

(k) one (1) natural gas-fired heater identified as EU-251, with a maximum heat input rate of 0.4 MMBtu per hour, and exhausting through stack SV-151;

(l) two (2) natural gas-fired water heaters identified as EU-278 and EU-279, each with a maximum heat input rate of ~~0.8~~ **0.08** MMBtu per hour, and exhausting through stacks SV-164 and SV-165, respectively;

(m) two (2) melt pots identified as EU-280 and EU-281, each with a maximum capacity of melting 1460 pounds of steel per hour, utilizing one (1) cyclone for particulate matter control, and exhausting through stack SV-166; and

Plant 1's two (2) melt pots identified as EU-119 and EU-120, each with a maximum capacity of melting 1460 pounds of steel per hour, utilizing one (1) cyclone for particulate matter control, and exhausting through stack SV-069.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Comment # 11

In Section D.11, the solvent tank no longer vents through SV-163; it is fugitive, and insignificant.

Response #11

The solvent tank is now considered insignificant. The following changes have been made to Section A.2.

(d) one (1) solvent wash tank identified as EU-276~~, exhausting through stack SV-163~~**;**

The following changes have been made to the facility description in Section D.11.

Facility Description [326 IAC 2-7-5(15)]:
(d) one (1) solvent wash tank identified as EU-276~~, exhausting through stack SV-163~~.
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Degreasing Operations

Comment # 12

Section D.14.1 purports to limit emissions to 1.71 lbs/hr. 326 IAC 6-3-2 cannot be used to establish process throughput limits. A set hourly limit effectively limits production. This is an invalid application of Rule 6.3. Sections D.10.1, D.12.1, and D.13.1 are similarly deficient.

Response # 12

326 IAC 6-3-2 was not used to establish process throughput limits nor is it being used to limit production. 326 IAC 6-3-2 in Section D.14.1 is only limiting the PM emissions from the units listed to 1.71 lbs/hr. No changes were made to Sections D.10.1, D.12.1, D.13.1 or D.14.1 of the permit as a result of this comment.

Comment # 13

Re: Section D.14.2, because there is no control device, no PMP is required.

Response # 13

There is no PMP mentioned at all in Section D.14.2. No changes were made to the permit as a result of this comment.

Comment # 14

The revisions purport to require quarterly reporting. This is entirely unreasonable and unjustified for a FESOP source, especially one with emission rates as low as this source.

Response # 14

Quarterly Reporting is required to document compliance with the permit requirements listed in this permit. 326 IAC 2-8-4(3)(C)(i) gives IDEM the authority to require reports “at least” every six months. The Office of Air Management feels that if reporting was only submitted annually, the possibility for a malfunction of the facilities would not be detected soon enough and would lead to a deviation from the permit requirements. In addition, this source is not considered small, since it is going to be a Title V source after this revision. There will be no changes to this condition in the final permit due to this comment.

Comment # 15

In general, the monitoring, record keeping, and reporting requirements proposed for this source are, under the circumstances, unduly burdensome and oppressive.

Response # 15

The monitoring, record keeping and reporting requirements are required to document continuous compliance with the permit requirements listed in this permit. The Office of Air Management does not feel the requirements are unduly burdensome or oppressive. No change were made to the permit as a result of this comment.

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a Permit Revision to a Federally Enforceable State Operating Permit (FESOP)

Source Background and Description

Source Name:	Aero Metals, Inc.
Source Location:	1201 E. Lincolnway and 402 Darlington Street Laporte, IN 46350
County:	Laporte
SIC Code:	3324
Operation Permit No.:	F091-5507-00074
Operation Permit Issuance Date:	April 7, 1997
Permit Revision No.:	F091-11381-00120
Permit Reviewer:	Nishat Hydari

The Office of Air Management (OAM) has reviewed a Significant Permit Revision application from Aero Metals, Inc. relating to the operation of an investment casting foundry.

History

On September 27, 1999, Aero Metals, Inc. submitted an application to the OAM requesting to construct an additional plant (Plant 2) to be located at 1201 E. Lincolnway in Laporte, Indiana. Plant 2 consists of the following emission units: wax burn out ovens, surface grinders, milling machines, CNC machines, sandblasters, EDM mill machines, natural gas-fired boiler, natural gas-fired heaters, and melt pots. Additional information was also submitted on November 15, 1999 to the OAM requesting the addition of new units (wax burn out ovens and melt pots) to their existing plant (Plant 1) located at 402 Darlington Street in Laporte, Indiana. The source requested to be granted one (1) Title V (Part 70) operating permit which would include both plants at Lincolnway and Darlington. IDEM realizes that the source has an existing FESOP permit for their existing plant on Darlington Street. Since the source cannot abolish their existing FESOP limits and construct and operate all the new equipment without transitioning from a FESOP to a Part 70 permit, IDEM will issue the source a FESOP Significant Permit Revision. Although the source will keep all the existing individual facility limits from the FESOP, the new emission units shall not be subject to those limits and shall be able to add emissions above the original 100 tons per year FESOP limit. Within 12 months the source must apply for a Title V (Part 70) permit and the FESOP will be revoked pursuant to 326 IAC 2-8-19.

Source Definition

This investment casting foundry company consists of two (2) plants:

(a) Plant 1 is located at 402 Darlington Street, Laporte, IN 46350; and

(b) Plant 2 is located at 1201 E. Lincolnway, Laporte, IN 46350.

Since the two (2) plants have the same SIC codes, are owned by one (1) company, and are located hundred (100) yards from one another, they will be considered one (1) source.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

(a) Construction Permit CP 091-3755-00074, issued on February 20, 1995; and

(b) F091-5507-00074, issued on April 7, 1997.

All conditions from previous approvals were incorporated into this FESOP Significant Permit Revision except for A.4, and C.1, which have been revised as follows:

~~A.4 FESOP Applicability [326 IAC 2-8-2]~~
~~This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) for a Federally Enforceable State Operating Permit (FESOP).~~

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to apply for a Part 70 permit within 12 months of submission of the Affidavit of Construction by 326 IAC 2-8-19 because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

~~C.1 Overall Source Limit (326 IAC 2-8)~~
~~Pursuant to 326 IAC 2-8, emissions of any regulated pollutant from the entire source shall not exceed 99 tons per 365 day period. Emissions of hazardous air pollutants (HAPs) from the entire source shall not exceed 9 tons of any individual HAP per 365 day period or 24 tons of any combination of HAPs per 365 day period. Emissions shall include those from all emission points at the source including those that are significant as defined in 326 IAC 2-7-1(20). The source shall be allowed to add insignificant activities not already listed in the permit, as long as the total emissions from the source do not exceed the above specified limits. In the event that any condition or combination of conditions in Section D of this permit differs from the above, the most restrictive limit will previal.~~

C.1 Overall Source Limit [326 IAC 2-8]

(a) The purpose of this permit is to limit the source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(1) Pursuant to 326 IAC 2-8:

(i) The potential to emit any regulated pollutant from the units in Section D.1 - D.9 of FESOP #091-5507-00074 issued on April 7, 1997 shall be limited to less than one-hundred (100) tons per twelve (12) consecutive month period.

(ii) The potential to emit any individual hazardous air pollutant (HAP) from the units in Section D.1 - D.9 of FESOP #091-5507-00074 issued on April 7, 1997 shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and

(iii) The potential to emit any combination of HAPs from the units in Section D.1 - D.9 of FESOP #091-5507-00074 issued on April 7, 1997 shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(2) This condition shall include units in Section D.1 - D.9 of FESOP #091-5507-00074 issued on April 7, 1997 including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(3) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

(b) Pursuant to 326 IAC 2-8-11.1(f)(B) Section D.10 - D.15 are not required to comply with this condition. The source will be subject to the Part 70 permit program when operation of the equipment listed in D.10 - D.15 begins.

New Emission Units and Pollution Control Equipment Receiving Prior Approval

The application includes information relating to the prior approval for the construction and operation of the following equipment pursuant to 326 IAC 2-8-4(11):

The stationary source (Plant 1) consists of the following emission units and pollution control devices:

(a) four (4) natural gas-fired wax burn out ovens identified as EU-121 through EU-124, each with a maximum capacity of melting 68 pounds of wax per hour and a maximum heat input rate of 0.55 MMBtu per hour, exhausting through stacks SV-070 through SV-073, respectively; and

(b) two (2) melt pots identified as EU-119 and EU-120, each with a maximum capacity of melting 1460 pounds of steel per hour, utilizing one (1) cyclone for particulate matter control, and exhausting through stack SV-069.

The stationary source (Plant 2) consists of the following emission units and pollution control devices:

(a) five (5) surface grinders identified as EU-261 through EU-265, each with a maximum capacity of 0.05 pounds of steel per hour, seven (7) milling machines identified as EU-266 through EU-272, each with a maximum capacity of 0.10 pounds of steel per hour, one (1) CNC machine identified as EU-273, with a maximum capacity of 0.34 pounds of steel per hour, all utilizing one (1) baghouse for particulate matter control, and exhausting through stack SV-161;

(b) one (1) CNC machine identified as EU-274, with a maximum capacity of 0.34 pounds of steel per hour, utilizing one (1) baghouse for particulate matter control, and exhausting at one (1) stack identified as SV-162;

(c) two (2) EDM mill machines identified as EU-275 and EU-277, each with a maximum capacity of 0.06 pounds of carbon per hour, and exhausting through stack SV-163;

(d) one (1) solvent wash tank identified as EU-276, exhausting through stack SV-163;

(e) one (1) sandblast cabinet system identified as EU-260, with a maximum capacity of 71.0 pounds of aluminum oxide per hour, utilizing one (1) cyclone for particulate matter control, and exhausting through stack SV-160;

(f) two (2) sandblasters identified as EU-286 and EU-287, each with a maximum capacity of 34.0 pounds of aluminum oxide per hour, utilizing one (1) baghouse for particulate matter control, and exhausting through stack SV-175;

(g) four (4) natural gas-fired wax burn out ovens identified as EU-282 through EU-285, each with a maximum capacity of melting 68 pounds of wax per hour and a maximum heat input rate of 0.55 MMBtu per hour, exhausting through stacks SV-171 through SV-174, respectively;

(h) one (1) natural gas-fired boiler (for backup use only) identified as EU-259, with a maximum heat input rate of 12.553 MMBtu per hour, and exhausting through stack SV-159;

(i) seven (7) natural gas-fired heaters identified as EU-252 through EU-258, each with a maximum heat input rate of 0.58 MMBtu per hour, and exhausting through stacks SV-152 through SV-159, respectively;

(j) one (1) natural gas-fired office heater identified as EU-250, with a maximum heat input rate of 2.2 MMBtu per hour, and exhausting through stack SV-150;

(k) one (1) natural gas-fired heater identified as EU-251, with a maximum heat input rate of 0.4 MMBtu per hour, and exhausting through stack SV-151;

(l) two (2) natural gas-fired water heaters identified as EU-278 and EU-279, each with a maximum heat input rate of 0.8 MMBtu per hour, and exhausting through stacks SV-164 and SV-165, respectively; and

(m) two (2) melt pots identified as EU-280 and EU-281, each with a maximum capacity of melting 1460 pounds of steel per hour, utilizing one (1) cyclone for particulate matter control, and exhausting through stack SV-166.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the Significant Permit Revision be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on September 27, 1999.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (Appendix A, pages 1 through 5).

Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA.”

Pollutant	Potential To Emit (tons/year)
PM	304.92
PM-10	305.21
SO_2	0.03
VOC	0.29
CO	4.39
NO_x	5.23

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

(a) The potential to emit of modification (as defined in 326 IAC 2-1.1-1(16)) of PM and PM-10 are equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7

(b) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Justification for Modification

The Federally Enforceable State Operating Permit is being modified through a Significant Permit Revision for a Federally Enforceable State Operating Permit. This modification is being performed pursuant to 326 IAC 2.8-11.1(f).

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 1994 OAM emission data.

Pollutant	Actual Emissions (tons/year)
PM	23.28
PM-10	4.81
SO_2	0.03
VOC	0.72
CO	0.52
NO_x	1.36

County Attainment Status

The source is located in Laporte County.

Pollutant	Status
PM-10	attainment
SO_2	non-attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Laporte County has been designated as attainment or unclassifiable for ozone.

Limited Potential to Emit of Modification after Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this FESOP Significant Permit Revision.

	Limited Potential to Emit (tons/year)					
Process/facility	PM	PM-10	SO_2	VOC	CO	NO_X
Natural Gas Combustion (EU-252 through EU-258, EU-250, EU-251, EU-278, EU-279, EU-259)	0.07	0.25	0.02	0.18	2.77	3.30
Wax Burn Out Ovens (EU-121 through EU-124, EU-282 through EU-285)	0.04	0.15	0.01	0.11	1.62	1.93
Foundry Processes (EU-261 through EU-265, EU-266 through EU-272, EU-273, EU-274, EU-275, EU-277, EU-260, EU-119, EU-120, EU-286, EU-287, EU-280, EU-281)	0.08	0.08	0.00	0.00	0.00	0.00
Total Emissions	0.19	0.48	0.03	0.29	4.39	5.23
PSD Significant Level	250	250	250	250	250	250

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Federal Rule Applicability

(a) The 12.553 MMBtu per hour boiler (for emergency stand by use only) is subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.40c, Subpart Dc). There are no limits or requirements because the boiler uses only natural gas.

(b) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), 326 IAC 14, (40 CRF 61, Subpart C) because it does not process beryllium alloys.

All Federal Rules cited in Federally Enforceable State Operating Permit (F091-5507-00074), issued on April 7, 1997, continue to apply to the existing emission units of this source until a Title V is issued.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration)

These new emission units and the emission units in Federally Enforceable State Operating Permit (F091-5507-00074), issued on April 7, 1997 are not subject to the requirements of 326 IAC 2-2 because the potential to emit of PM-10 is less than 250 tons per year, after the application of federally enforceable controls, and the potential to emit of all other regulated pollutants is less than 250 tons per year.

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than one hundred (100) tons per year of PM-10. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 2-7 (Part 70 Permit Program)

This source is subject to 326 IAC 2-7 (Part 70 Permit Program) and has opted to change the status from FESOP to Title V, thus within twelve (12) months of construction of the new emission units, the source has to apply for a Title V permit.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

All entire source State Rules cited in Federally Enforceable State Operating Permit (F091-5507-00074), issued on April 7, 1997, continue to apply to the existing emission units of this source until a Title V is issued.

State Rule Applicability - Individual Facilities

326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)

The one (1) natural gas fired boiler (EU-259) for emergency stand by use only, rated at 12.553 MMBtu per hour, is subject to the particulate matter limitations of 326 IAC 6-2. Pursuant to this rule, the boiler is limited by the following equation from 326 IAC 6-2-4:

$Pt = 1.09/Q^{0.26}$

where: Pt = maximum allowable particulate matter (PM) emitted per MMBtu heat input
Q = total source max. indirect heater input = boiler EU-259 = 12.553 MMBtu/hr

$Pt = 1.09/12.553^{0.26} = 0.56$ lbs PM/MMBtu

Therefore, the boiler is limited to 0.56 lbs PM/MMBtu

Compliance calculation:
(0.01 tons PM/yr) * (hr/12.553 MMBtu) * (yr/8,760 hrs) * (2,000 lbs/ton) = 1.82E-4 lbs PM/MMBtu

Actual lbs PM/MMBtu (1.82E-4) is less than allowable lbs PM/MMBtu (0.56), therefore the boiler will comply with the requirements of 326 IAC 6-4.

326 IAC 6-3-2 (Process Operations)

The particulate matter (PM) from the foundry processes shall be limited by the following:

(a) Pursuant to 326 IAC 6-3-2 (Process Operations), particulate matter (PM) from the four (4) wax burn out ovens (EU-282 through EU-285) and the four (4) wax burn out ovens (EU-121 through EU-124) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10*(0.272)^{0.67} = 1.71$ lbs PM/hour

Based on the above equation, particulate matter emissions from the four (4) wax burn out ovens (EU-282 through EU-285) and the four (4) wax burn out ovens (EU-121 through EU-124) shall be limited to 1.71 pounds per hour.

Compliance calculation:
(0.04 tons PM/yr) * (yr/8,760 hrs) * (2,000 lbs/ton) = 9.13E-3 lbs PM/hr

Actual lbs PM/hr (9.13E-3) is less than the allowable lbs PM/hr (1.71), therefore the eight (8) wax burn out ovens will comply with the requirements of 326 IAC 6-3-2.

(b) Pursuant to 326 IAC 6-3-2 (Process Operations), particulate matter (PM) from the five (5) surface grinders (EU-261 through EU-265), seven (7) milling machines (EU-266 through EU-272), and the one (1) CNC milling machine (EU-273) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10*(6.45E\text{-}4)^{0.67} = 0.03$ lbs PM/hour

Based on the above equation, particulate matter emissions from the five (5) surface grinders, seven (7) milling machines, and the one (1) CNC milling machine shall be limited to 0.03 pounds per hour.

Compliance calculation:
(272.34 tons PM/yr) * (yr/8,760 hrs) * (2,000 lbs/ton) = 62.17 lbs PM/hr

The five (5) surface grinders, seven (7) milling machines, and the one (1) CNC milling machine will comply with the requirements of 326 IAC 6-3-2 by using a dust collection system (SV-161). See Appendix A, page 5 for detailed emission calculations.

(c) Pursuant to 326 IAC 6-3-2 (Process Operations), particulate matter (PM) from the one (1) CNC machine (EU-274) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10*(1.7E\text{-}4))^{0.67} = 0.01$ lbs PM/hour

Based on the above equation, particulate matter emissions from the one (1) CNC machine shall be limited to 0.01 pounds per hour.

Compliance calculation:
(2.03 tons PM/yr) * (yr/8,760 hrs) * (2,000 lbs/ton) = 0.46 lbs PM/hr

The one (1) CNC machine will comply with the requirements of 326 IAC 6-3-2 by using a dust collection system (SV-162). See Appendix A, page 5 for detailed emission calculations.

(d) Pursuant to 326 IAC 6-3-2 (Process Operations), particulate matter (PM) from the one (1) sandblast cabinet system (EU-260) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10*(0.0355)^{0.67} = 0.44$ lbs PM/hour

Based on the above equation, particulate matter emissions from the one (1) sandblast cabinet system shall be limited to 0.44 pounds per hour.

Compliance calculation:
(8.45 tons PM/yr) * (yr/8,760 hrs) * (2,000 lbs/ton) = 1.93 lbs PM/hr

The one (1) sandblast cabinet system will comply with the requirements of 326 IAC 6-3-2 by using a dust collection system (SV-160). See Appendix A, page 5 for detailed emission calculations.

(e) Pursuant to 326 IAC 6-3-2 (Process Operations), particulate matter (PM) from the two (2) sandblasters (EU-286 and EU-287) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10*(0.034)^{0.67} = 0.43$ lbs PM/hour

Based on the above equation, particulate matter emissions from the two (2) sandblasters shall be limited to 0.43 pounds per hour.

Compliance calculation:
(21.62 tons PM/yr) * (yr/8,760 hrs) * (2,000 lbs/ton) = 1.93 lbs PM/hr

The two (2) sandblasters will comply with the requirements of 326 IAC 6-3-2 by using a dust collection system (SV-175). See Appendix A, page 5 for detailed emission calculations.

(f) Pursuant to 326 IAC 6-3-2 (Process Operations), particulate matter (PM) from the two (2) EDM milling machines (EU-275 and EU-277) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10*(6E-5)^{0.67} = 6.08E-3$ lbs PM/hour

Based on the above equation, particulate matter emissions from the two (2) EDM milling machines shall be limited to 6.08E-3 pounds per hour.

Compliance calculation:
(0.00 tons PM/yr) * (yr/8,760 hrs) * (2,000 lbs/ton) = 0.00 lbs PM/hr

The two (2) EDM mill machines will comply with the requirements of 326 IAC 6-3-2 by using a vapor cannister collection system (SV-163). See Appendix A, page 5 for emission calculations.

(g) Pursuant to 326 IAC 6-3-2 (Process Operations), particulate matter (PM) from the two (2) melt pots (EU-280 and EU-281) and the two (2) melt pots (EU-119 and EU-120) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10*(2.92)^{0.67} = 8.41$ lbs PM/hour

Compliance calculation:
(0.38 tons PM/yr) * (yr/8,760 hrs) * (2,000 lbs/ton) = 0.09 lbs PM/hr

Actual lbs PM/hr (0.09) is less than the allowable lbs PM/hr (8.41), therefore the four (4) melt pots will comply with the requirements of 326 IAC 6-3-2.

The baghouses and cyclones shall be in operation at all times the foundry processes are in operation, in order to comply with these limits.

All individual facilities State Rules cited in Federally Enforceable State Operating Permit (F091-5507-00074), issued on April 7, 1997, continue to apply to the existing emission units of this source until a Title V is issued.

Compliance Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance

Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

(1) The five (5) surface grinders, identified as EU-261 through EU-265, seven (7) milling machines, identified as EU-266 through EU-272, and one (1) CNC machines, identified as EU-273, have applicable compliance monitoring conditions as specified below:

(a) Daily visible emissions notations of the five (5) surface grinders, seven (7) milling machines and one (1) CNC machine stack exhaust (SV-161) shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

(b) The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the five (5) surface grinders, seven (7) milling machines and the one (1) CNC machine at least once weekly when the five (5) surface grinders, seven (7) milling machines, and the one (1) CNC machine are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 1.0 and 6.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

(c) An inspection shall be performed each calender quarter of all bags controlling the five (5) surface grinders, seven (7) milling machines and the one (1) CNC machine when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting indoors. All defective bags shall be replaced.

These monitoring conditions are necessary because the five (5) surface grinders, seven (7) milling machines, one (1) CNC machine and baghouse Dust Collection System must operate properly to ensure compliance with 326 IAC 5-1 (Opacity Limitations) and 326 IAC 6-3-2 (Process Operations).

(2) The one (1) CNC machine, identified as EU-274, has applicable compliance monitoring conditions as specified below:

(a) The Permittee shall record the total static pressure drop across the baghouse

used in conjunction with the one (1) CNC machine at least once weekly when the one (1) CNC machine is in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 1.0 and 6.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

(b) An inspection shall be performed each calender quarter of all bags controlling the one (1) CNC machine when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting indoors. All defective bags shall be replaced.

These monitoring conditions are necessary because the one (1) CNC machine and baghouse Dust Collection System must operate properly to ensure compliance with 326 IAC 5-1 (Opacity Limitations) and 326 IAC 6-3-2 (Process Operations).

(3) The one (1) sandblast cabinet system, identified as EU-260 has applicable compliance monitoring conditions as specified below:

(a) An inspection shall be performed each calender quarter of all cyclones controlling the one (1) sandblast cabinet system operation when venting to the atmosphere. A cyclone inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors.

(b) In the event that cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

These monitoring conditions are necessary because the foundry process equipment and cyclone Dust Collection System must operate properly to ensure compliance with 326 IAC 5-1 (Opacity Limitations) and 326 IAC 6-3-2 (Process Operations).

(4) The two (2) sandblasters, identified as EU-286 and EU-287, have applicable compliance monitoring conditions as specified below:

(a) The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the two (2) sandblasters at least once weekly when the two (2) sandblasters are in operation when venting to the atmosphere. Unless

operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 0.5 and 3.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

(b) An inspection shall be performed each calender quarter of all bags controlling the one (1) CNC machine when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting indoors. All defective bags shall be replaced.

These monitoring conditions are necessary because the foundry process equipment and baghouse Dust Collection System must operate properly to ensure compliance with 326 IAC 5-1 (Opacity Limitations) and 326 IAC 6-3-2 (Process Operations).

(5) The two (2) EDM mill machines, identified as EU-275 and EU-277, have applicable compliance monitoring conditions as specified below:

(a) Daily visible emissions notations of the two (2) EDM mill machines stack exhaust (SV-163) shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously “normal” means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

These monitoring conditions are necessary because the two (2) EDM mill machines must operate properly to ensure compliance with 326 IAC 5-1 (Opacity Limitations) and 326 IAC 6-3-2 (Process Operations).

(6) The two (2) melt pots, identified as EU-280 and EU-281, and the two (2) melt pots identified as EU-119 and EU-120, have applicable compliance monitoring conditions as specified below:

(a) Daily visible emissions notations of the four (4) melt pot stack exhausts (SV-166 and SV-069) shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously “normal” means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Preventive Maintenance Plan for this unit shall contain

troubleshooting contingency and corrective actions for when an abnormal emission is observed.

(b) An inspection shall be performed each calender quarter of all cyclones controlling the four (4) melt pots operation when venting to the atmosphere. A cyclone inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors.

(b) In the event that cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

These monitoring conditions are necessary because the four (4) melt pots must operate properly to ensure compliance with 326 IAC 5-1 (Opacity Limitations) and 326 IAC 6-3-2 (Process Operations).

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Part 70 Application Form GSD-08.

None of the listed air toxics will be emitted from this modification.

Changes Proposed

The following changes have been made to the Federally Enforceable State Operating Permit (F091-5507-00074) :

The emission unit description in Section A.2 has been revised to include the new emission units:

(i) three (3) fluidized sand beds identified as EU51, EU53, and EU54, and one (1) sand mix tank identified as EU52, with EU51 controlled for particulate matter by one (1) cartridge type dust collector identified as MC3000-2, exhausting through one (1) stack identified as S/V16, and EU52, EU53, and EU54 controlled for particulate matter by one (1) cartridge type dust collector identified as MC3000-3, exhausting through one (1) stack identified as S/V17; ~~and~~

(j) one (1) OKK CNC milling machine identified as EU56, controlled for particulate matter by one (1) baghouse, exhausting at one (1) stack identified as S/V19~~.~~**;**

(k) four (4) natural gas-fired wax burn out ovens identified as EU-121 through EU-124, each with a maximum capacity of melting 68 pound of wax per hour and a maximum heat input rate of 0.55 MMBtu per hour, exhausting through stacks SV-070 through SV-073, respectively; and

(l) two (2) melt pots identified as EU-119 and EU-120, each with a maximum capacity of melting 1460 pounds of steel per hour, utilizing one (1) cyclone for particulate matter control, and exhausting through stack SV-069.

Plant 2 consists of the following emission units and pollution control devices:

(a) five (5) surface grinders identified as EU-261 through EU-265, each with a maximum capacity of 0.05 pounds of steel per hour, seven (7) milling machines identified as EU-266 through EU-272, each with a maximum capacity of 0.10 pounds of steel per hour, one (1) CNC machine identified as EU-273, with a maximum capacity of 0.34 pounds of steel per hour, all utilizing one (1) baghouse for particulate matter control, and exhausting through stack SV-161;

(b) one (1) CNC machine identified as EU-274, with a maximum capacity of 0.34 pounds of steel per hour, utilizing one (1) baghouse for particulate matter control, and exhausting at one (1) stack identified as SV-162;

(c) two (2) EDM mill machines identified as EU-275 and EU-277, each with a maximum capacity of 0.06 pounds of carbon per hour, and exhausting through stack SV-163;

(d) one (1) solvent wash tank identified as EU-276, exhausting through stack SV-163

(e) one (1) sandblast cabinet system identified as EU-260, with a maximum capacity of 71.0 pounds of aluminum oxide per hour, utilizing one (1) cyclone for particulate matter control, and exhausting through stack SV-160;

(f) two (2) sandblasters identified as EU-286 and EU-287, each with a maximum capacity of 34.0 pounds of aluminum oxide per hour, utilizing one (1) baghouse for particulate matter control, and exhausting through stack SV-175;

(g) four (4) natural gas-fired wax burn out ovens identified as EU-282 through EU-285, each with a maximum capacity of melting 68 pounds of wax per hour and a maximum heat input rate of 0.55 MMBtu per hour, exhausting through stacks SV-171 through SV-174, respectively;

(h) one (1) natural gas-fired boiler (for backup use only) identified as EU-259, with a maximum heat input rate of 12.553 MMBtu per hour, and exhausting through stack SV-159;

(i) seven (7) natural gas-fired heaters identified as EU-252 through EU-258, each with a maximum heat input rate of 0.58 MMBtu per hour, and exhausting through stacks SV-152 through SV-159, respectively;

(j) one (1) natural gas-fired office heater identified as EU-250, with a maximum heat input rate of 2.2 MMBtu per hour, and exhausting through stack SV-150;

(k) one (1) natural gas-fired heater identified as EU-251, with a maximum heat input rate of 0.4 MMBtu per hour, and exhausting through stack SV-151;

(l) two (2) natural gas-fired water heaters identified as EU-278 and EU-279, each with a maximum heat input rate of 0.8 MMBtu per hour, and exhausting through stacks SV-164 and SV-165, respectively; and

(m) two (2) melt pots identified as EU-280 and EU-281, each with a maximum capacity of melting 1460 pounds of steel per hour, utilizing one (1) cyclone for particulate matter control, and exhausting through stack SV-166.

The insignificant activities description in Section A.3 has been revised to include the new insignificant emission units:

This stationary source (Plant 2) also includes the following insignificant activities, as

defined in 326 IAC 2-7-1 (20):

(a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour;

(b) Combustion source flame safety purging on startup;

(c) The following VOC and HAP storage containers:

(1) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons;

(2) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids;

(d) Equipment used exclusively for the following:

(1) Packaging lubricants and greases;

(2) Filling drums, pails or other packaging containers with lubricating oils, waxes, and greases;

(e) Machining where an aqueous cutting coolant continuously floods the machining interface;

(f) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6;

(g) Cleaners and solvents characterized as follows:

(1) Having a vapor pressure equal to or less than 2kPa; 15mm Hg; or 0.3 psi measured at 38 degrees C (100EF) or;

(2) Having a vapor pressure equal to or less than 0.7 kPa; 5 mm Hg; or 0.1 psi measured at 20EC (68EF); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months;

(h) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment;

(i) Closed loop heating and cooling systems;

(j) Any operation using aqueous solutions containing less than 1% by weight of VOCs excluding HAPs;

(k) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment;

(l) Heat exchanger cleaning and repair;

(m) Trimmers that do not produce fugitive emissions and that are equipped with a dust collection or trim material recovery device such as a bag filter or cyclone;

(n) Paved or unpaved roads and parking lots with public access;

(o) Purging of gas lines and vessels that is related to routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process;

(p) Blowdown for any of the following: sight glass; boiler; compressors; pump; and cooling tower;

(q) Stationary fire pumps;

(r) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations; and

(s) Any unit emitting greater than 1 pound per day but less than 5 pounds per day or 1 ton per year of a single HAP:

(1) Trichloroethylene use for general parts cleaning.

Section A.4 has been revised as follows:

~~A.4 FESOP Applicability [326 IAC 2-8-2]~~
~~This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) for a Federally Enforceable State Operating Permit (FESOP).~~

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to apply for a Part 70 permit within 12 months of submission of the Affidavit of Construction by 326 IAC 2-8-19 because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

Section B has been added to the permit as follows:

SECTION B GENERAL CONSTRUCTION CONDITIONS

B.1 Permit No Defense [IC 13]

This approval to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions [326 IAC 2-7-1]

Terms in this approval shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2 and 326 IAC 2-7 shall prevail.

B.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

B.4 Revocation of Permits [326 IAC 2-1.1-9(5)][326 IAC 2-7-10.5(i)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.5 Significant Source Modification [326 IAC 2-7-10.5(h)] [326 IAC 2-7-2(d)]

This document shall also become the approval to operate pursuant to 326 IAC 2-7-10.5(h) when, prior to start of operation, the following requirements are met:

(a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the emission units were constructed as proposed in the application. The emissions units covered in the Significant Source Modification approval may begin operating on the date the affidavit of construction is postmarked or hand delivered to IDEM if constructed as proposed.

(b) If actual construction of the emissions units differs from the construction proposed in the application, the source may not begin operation until the source modification has been revised pursuant to 326 IAC 2-7-11 or 326 IAC 2-7-12 and an Operation Permit Validation Letter is issued.

(c) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.

(d) The Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.

Section C.1 has been revised as follows:

~~C.1 Overall Source Limit (326 IAC 2-8)~~

~~Pursuant to 326 IAC 2-8, emissions of any regulated pollutant from the entire source shall not exceed 99 tons per 365 day period. Emissions of hazardous air pollutants (HAPs) from the entire source shall not exceed 9 tons of any individual HAP per 365 day period or 24 tons of any combination of HAPs per 365 day period. Emissions shall include those from all emission points at the source including those that are significant as defined in 326 IAC 2-7-1(20). The source shall be allowed to add insignificant activities not already listed in the permit, as long as the total emissions from the source do not exceed the above specified limits. In the event that any condition or combination of conditions in Section D of this permit differs from the above, the most restrictive limit will previal.~~

C.1 Overall Source Limit [326 IAC 2-8]

(a) The purpose of this permit is to limit the source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(1) Pursuant to 326 IAC 2-8:

(i) The potential to emit any regulated pollutant from the units in Section D.1 - D.9 of FESOP #091-5507-00074 issued on April 7, 1997 shall be limited to less than one-hundred (100) tons per twelve (12) consecutive month period.

(ii) The potential to emit any individual hazardous air pollutant (HAP) from the units in Section D.1 - D.9 of FESOP #091-5507-00074 issued on April 7, 1997 shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and

(iii) The potential to emit any combination of HAPs from the units in Section D.1 - D.9 of FESOP #091-5507-00074 issued on April 7, 1997 shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(2) This condition shall include units in Section D.1 - D.9 of FESOP #091-5507-00074 issued on April 7, 1997 including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(3) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

(b) Pursuant to 326 IAC 2-8-11.1(f)(B) Section D.10 - D.15 are not required to comply with this condition. The source will be subject to the Part 70 permit program when operation of the equipment listed in D.10 - D.15 begins.

Section D.10 has been added to the permit

SECTION D.10 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:
(a) five (5) surface grinders identified as EU-261 through EU-265, each with a maximum capacity of 0.05 pounds of steel per hour, seven (7) milling machines identified as EU-266 through EU-272, each with a maximum capacity of 0.10 pounds of steel per hour, one (1) CNC machine identified as EU-273, with a maximum capacity of 0.34 pounds of steel per hour, all utilizing one (1) baghouse for particulate matter control, and exhausting through stack SV-161;
(b) one (1) CNC machine identified as EU-274, with a maximum capacity of 0.34 pounds of steel per hour, utilizing one (1) baghouse for particulate matter control, and exhausting at one (1) stack identified as SV-162; and
(c) two (2) EDM mill machines each rated at 0.06 pounds per hour and identified as EU-275 and EU-277, exhausting at one (1) stack identified as SV-163.
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emissions Limitations and Standards [326 IAC 2-8-4(1)]

D.10.1 Particulate Matter (PM) [326 IAC 6-3]

(a) Pursuant to 326 IAC 6-3-2 (Process Operations), particulate matter (PM) from the five (5) surface grinders (EU-261 through EU-265), seven (7) milling machines (EU-266 through EU-272), and the one (1) CNC milling machine (EU-273) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and

P = process weight rate in tons per hour

$E = 4.10*(6.45E-4)^{0.67} = 0.03$ lbs PM/hour

Based on the above equation, particulate matter emissions from the five (5) surface grinders, seven (7) milling machines, and the one (1) CNC milling machine shall be limited to 0.03 pounds per hour.

(b) Pursuant to 326 IAC 6-3-2 (Process Operations), particulate matter (PM) from the one (1) CNC machine (EU-274) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10*(1.7E-4))^{0.67} = 0.01$ lbs PM/hour

Based on the above equation, particulate matter emissions from the one (1) CNC machine shall be limited to 0.01 pounds per hour.

(c) Pursuant to 326 IAC 6-3-2 (Process Operations), particulate matter (PM) from the two (2) EDM milling machines (EU-275 and EU-277) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10*(6E-5)^{0.67} = 6.08E-3$ lbs PM/hour

Based on the above equation, particulate matter emissions from the two (2) EDM milling machines shall be limited to 6.08E-3 pounds per hour.

Compliance Determination Requirements

D.10.2 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the limit specified in Condition D.10.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.10.3 Particulate Matter (PM)

The baghouses for PM control shall be in operation at all times that the the five (5) surface grinders, seven (7) milling machines, one (1) CNC milling machine (EU-273) and one (1) CNC machine (EU-274) are in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.10.4 Visible Emissions Notations

(a) Daily visible emission notations of the five (5) surface grinders, seven (7) milling machines, one (1) CNC milling machine (EU-273) and one (1) CNC machine (EU-274) stack exhausts shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.10.5 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouses used in conjunction with the five (5) surface grinders, seven (7) milling machines, one (1) CNC milling machine (EU-273) and one (1) CNC machine (EU-274), at least once weekly when the five (5) surface grinders, seven (7) milling machines, one (1) CNC milling machine (EU-273) and one (1) CNC machine (EU-274) are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouses shall be maintained within the range of 1.0 and 6.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

D.10.6 Baghouse Inspections

An inspection shall be performed each calender quarter of all bags controlling the woodworking operation when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.10.7 Broken or Failed Bag Detection

In the event that bag failure has been observed:

(a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance

Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.10.8 Record Keeping Requirements

(a) To document compliance with Condition D.10.3 the Permittee shall maintain records of daily visible emission notations of the five (5) surface grinders, seven (7) milling machines, one (1) CNC milling machine (EU-273) and one (1) CNC machine (EU-274) stack exhaust.

(b) To document compliance with Condition D.10.4, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle: frequency and differential pressure

(2) Documentation of all response steps implemented, per event .

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(8) Documentation of the dates vents are redirected.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.10.9 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.10.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

Section D.11 has been added to the permit

SECTION D.11 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:
(d) one (1) solvent wash tank identified as EU-276, exhausting through stack SV-163.
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.11.1 Volatile Organic Compounds (VOC)

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), the owner or operator shall:

(a) Equip the cleaner with a cover;

(b) Equip the cleaner with a facility for draining cleaned parts;

(c) Close the degreaser cover whenever parts are not being handled in the cleaner;

(d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(e) Provide a permanent, conspicuous label summarizing the operation requirements;

(f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

D.11.2 Volatile Organic Compounds (VOC)

(a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaner degreaser facility shall ensure that the following control equipment requirements are met:

(1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

(A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38^{O}C) (one hundred degrees Fahrenheit (100^{O}F));

(B) The solvent is agitated; or

(C) The solvent is heated.

(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38^{O}C) (one hundred degrees Fahrenheit (100^{O}F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).

(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38^{O}C) (one hundred degrees Fahrenheit (100^{O}F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9^{O}C) (one hundred twenty degrees Fahrenheit (120^{O}F)):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent is used is insoluble in, and heavier than, water.

(C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

(b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility shall ensure that the following operating requirements are met:

(1) Close the cover whenever articles are not being handled in the degreaser.

(2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.

(3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

Section D.12 has been added to the permit

SECTION D.12 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:
(e) one (1) sandblast cabinet system identified as EU-260, with a maximum capacity of 71.0 pounds of aluminum oxide per hour, utilizing one (1) cyclone for particulate matter control, and exhausting through stack SV-160.
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emissions Limitations and Standards [326 IAC 2-8-4(1)]

D.12.1 Particulate Matter (PM) 326 IAC 6-3]

Pursuant to 326 IAC 6-3-2 (Process Operations), particulate matter (PM) from the one (1) sandblast cabinet system (EU-260) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10*(0.0355)^{0.67} = 0.44$ lbs PM/hour

Based on the above equation, particulate matter emissions from the one (1) sandblast cabinet system shall be limited to 0.44 pounds per hour.

Compliance Determination Requirements

D.12.2 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D12.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.12.3 Particulate Matter (PM)

The cyclone for PM control shall be in operation at all times that the one (1) sandblast cabinet system (EU-260) is in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.12.4 Visible Emissions Notations

(a) Daily visible emission notations of the one (1) sandblast cabinet system stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.12.5 Cyclone Inspections

An inspection shall be performed each calender quarter of all cyclones controlling the sandblast cabinet system when venting to the atmosphere. A cyclone inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors.

D.12.6 Cyclone Failure Detection

In the event that cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.12.7 Record Keeping Requirements

(a) To document compliance with Condition D.12.3, the Permittee shall maintain records of daily visible emission notations of the one (1) sandblast cabinet system stack exhaust.

(b) To document compliance with Condition D.12.4, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle: frequency and differential pressure

(2) Documentation of all response steps implemented, per event .

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(8) Documentation of the dates vents are redirected.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.12.8 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.12.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

Section D.13 has been added to the permit

SECTION D.13 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:
(f) two (2) sandblasters identified as EU-286 and EU-287, each with a maximum capacity of 34.0 pounds of aluminum oxide per hour, utilizing one (1) baghouse for particulate matter control, and exhausting through stack SV-175.
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.13.1 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3-2 (Process Operations), particulate matter (PM) from the two (2) sandblasters (EU-286 and EU-287) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10*(0.034)^{0.67} = 0.43$ lbs PM/hour

Based on the above equation, particulate matter emissions from the two (2) sandblasters shall be limited to 0.43 pounds per hour.

Compliance Determination Requirements

D.13.2 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.13.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.13.3 Particulate Matter (PM)

The baghouse for PM control shall be in operation at all times that the two (2) sandblasters (EU-286 and EU-287) are in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.13.4 Visible Emissions Notations

(a) Daily visible emission notations of the two (2) sandblasters stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.13.5 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the two (2) sandblasters, at least once weekly when the two (2) sandblasters are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 0.5 and 3.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

D.13.6 Baghouse Inspections

An inspection shall be performed each calender quarter of all bags controlling the two (2) sandblasters when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.13.7 Broken or Failed Bag Detection

In the event that bag failure has been observed:

(a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.13.8 Record Keeping Requirements

(a) To document compliance with Condition D.13.3, the Permittee shall maintain records of daily visible emission notations of the two (2) sandblasters stack

exhaust.

(b) To document compliance with Condition D.13.4, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle: frequency and differential pressure

(2) Documentation of all response steps implemented, per event .

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(8) Documentation of the dates vents are redirected.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.13.9 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.13.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

Section D.14 has been added to the permit

SECTION D.14 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:
(g) four (4) natural gas-fired wax burn out ovens identified as EU-282 through EU-285, each with a maximum capacity of melting 68 pounds of wax per hour and a maximum heat input rate of 0.55 MMBtu per hour, exhausting through stacks SV-171 through SV-174, respectively; and

Plant 1's four (4) natural gas-fired wax burn out ovens identified as EU-121 through EU-124, each with a maximum capacity of melting 68 pounds of wax per hour and a maximum heat input rate of 0.55 MMBtu per hour, exhausting through stacks SV-070 through SV-073, respectively. (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.14.1 Particulate Matter Limitation (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3-2 (Process Operations), particulate matter (PM) from the four (4)

wax burn out ovens (EU-282 through EU-285) and the four (4) wax burn out ovens (EU-121 through EU-124) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10*(0.272)^{0.67} = 1.71$ lbs PM/hour

Based on the above equation, particulate matter emissions from the four (4) wax burn out ovens (EU-282 through EU-285) and the four (4) wax burn out ovens (EU-121 through EU-124) shall be limited to 1.71 pounds per hour.

Compliance Determination Requirements

D.14.2 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.14.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

Reporting Requirements [326 IAC 2-7-19]

D.14.3 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.14.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

Section D.15 has been added to the permit

SECTION D.15 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

(h) one (1) natural gas-fired boiler (for backup use only) identified as EU-259, with a maximum heat input rate of 12.553 MMBtu per hour, and exhausting through stack SV-159;

(i) seven (7) natural gas-fired heaters identified as EU-252 through EU-258, each with a maximum heat input rate of 0.58 MMBtu per hour, and exhausting through stacks SV-152 through SV-159, respectively;

(j) one (1) natural gas-fired office heater identified as EU-250, with a maximum heat input rate of 2.2 MMBtu per hour, and exhausting through stack SV-150;

(k) one (1) natural gas-fired heater identified as EU-251, with a maximum heat input rate of 0.4 MMBtu per hour, and exhausting through stack SV-151;

(l) two (2) natural gas-fired water heaters identified as EU-278 and EU-279, each with a maximum heat input rate of 0.8 MMBtu per hour, and exhausting through stacks SV-164 and SV-165, respectively;

(m) two (2) melt pots identified as EU-280 and EU-281, each with a maximum capacity of melting 1460 pounds of steel per hour, utilizing one (1) cyclone for particulate matter control, and exhausting through stack SV-166; and

Plant 1's two (2) melt pots identified as EU-119 and EU-120, each with a maximum capacity of melting 1460 pounds of steel per hour, utilizing one (1) cyclone for particulate matter control, and exhausting through stack SV-069.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.15.1 Particulate Matter Limitation (PM)

(a) Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), particulate matter (PM) from the one (1) natural gas-fired boiler (EU-259) shall be limited by the following:

$$Pt = 1.09/Q^{0.26}$$

where: Pt = maximum allowable particulate matter (PM) emitted per MMBtu heat input
Q = total source max. indirect heater input = boiler EU-259 = 12.553 MMBtu/hr

$$Pt = 1.09/12.553^{0.26} = 0.56 \text{ lbs PM/MMBtu}$$

Therefore, the boiler is limited to 0.56 lbs PM/MMBtu

(b) Pursuant to 326 IAC 6-3-2 (Process Operations), particulate matter (PM) from the two (2) melt pots (EU-280 and EU-281) and the two (2) melt pots (EU-119 and EU-120) shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10\ P^{0.67}$$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$$E = 4.10*(2.92)^{0.67} = 8.41 \text{ lbs PM/hour}$$

Based on the above equation, particulate matter emissions from the two (2) melt pots (EU-280 and EU-281) and the two (2) melt pots (EU-119 and EU-120) shall be limited to 8.41 pounds per hour.

D.15.2 Natural Gas Fuel

The one (1) boiler (EU-259) rated at 12.553 million Btu per hour, shall use only natural gas fuel.

Compliance Determination Requirements

D.15.3 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D15.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.15.4 Particulate Matter (PM)

The cyclones for PM control shall be in operation at all times that the two (2) melt pots (EU-280 and EU-281) and the two (2) melt pots (EU-119 and EU-120) are in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.15.5 Visible Emissions Notations

(a) Daily visible emission notations of the four (4) melt pot stack exhausts shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.15.6 Cyclone Inspections

An inspection shall be performed each calender quarter of all cyclones controlling the melt pot operation when venting to the atmosphere. A cyclone inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors.

D.15.7 Cyclone Failure Detection

In the event that cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.15.8 Record Keeping Requirements

(a) To document compliance with Condition D.15.4, the Permittee shall maintain records of daily visible emission notations of the four (4) melt pot stack exhausts.

(b) To document compliance with Condition D.15.5, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle: frequency and differential pressure

(2) Documentation of all response steps implemented, per event .

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(8) Documentation of the dates vents are redirected.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.15.9 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.15.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

Section D.16 has been added to the permit.

SECTION D.16 FACILITY CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

(a) five (5) surface grinders identified as EU-261 through EU-265, each with a maximum capacity of 0.05 pounds of steel per hour, seven (7) milling machines identified as EU-266 through EU-272, each with a maximum capacity of 0.10 pounds of steel per hour, one (1) CNC machine identified as EU-273, with a maximum capacity of 0.34 pounds of steel per hour, all utilizing one (1) baghouse for particulate matter control, and exhausting through stack SV-161;

(b) one (1) CNC machine identified as EU-274, with a maximum capacity of 0.34 pounds of steel per hour, utilizing one (1) baghouse for particulate matter control, and exhausting at one (1) stack identified as SV-162;

(c) two (2) EDM mill machines each rated at 0.06 pounds per hour and identified as EU-275 and EU-277, exhausting at one (1) stack identified as SV-163;

(d) one (1) solvent wash tank identified as EU-276, exhausting through stack SV-163;

(e) one (1) sandblast cabinet system identified as EU-260, with a maximum capacity of 71.0 pounds of aluminum oxide per hour, utilizing one (1) cyclone for particulate matter control, and exhausting through stack SV-160;

(f) two (2) sandblasters identified as EU-286 and EU-287, each with a maximum capacity of 34.0 pounds of aluminum oxide per hour, utilizing one (1) baghouse for particulate matter control, and exhausting through stack SV-175;

(g) four (4) natural gas-fired wax burn out ovens identified as EU-282 through EU-285, each with a maximum capacity of melting 68 pounds of wax per hour and a maximum heat input rate of 0.55 MMBtu per hour, exhausting through stacks SV-171 through SV-174, respectively;

Plant 1's four (4) natural gas-fired wax burn out ovens identified as EU-121 through EU-124, each with a maximum capacity of melting 68 pounds of wax per hour and a maximum heat input rate of 0.55 MMBtu per hour, exhausting through stacks SV-070 through SV-073, respectively;

(h) one (1) natural gas-fired boiler (for backup use only) identified as EU-259, with a maximum heat input rate of 12.553 MMBtu per hour, and exhausting through stack SV-159;

(i) seven (7) natural gas-fired heaters identified as EU-252 through EU-258, each with a maximum heat input rate of 0.58 MMBtu per hour, and exhausting through stacks SV-152 through SV-159, respectively;

(j) one (1) natural gas-fired office heater identified as EU-250, with a maximum heat input rate of 2.2 MMBtu per hour, and exhausting through stack SV-150;

(k) one (1) natural gas-fired heater identified as EU-251, with a maximum heat input rate of 0.4 MMBtu per hour, and exhausting through stack SV-151;

(l) two (2) natural gas-fired water heaters identified as EU-278 and EU-279, each with a maximum heat input rate of 0.8 MMBtu per hour, and exhausting through stacks SV-164 and SV-165, respectively;

(m) two (2) melt pots identified as EU-280 and EU-281, each with a maximum capacity of melting 1460 pounds of steel per hour, utilizing one (1) cyclone for particulate matter control, and exhausting through stack SV-166; and

Plant 1's two (2) melt pots identified as EU-119 and EU-120, each with a maximum capacity of melting 1460 pounds of steel per hour, utilizing one (1) cyclone for particulate matter control, and exhausting through stack SV-069.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1 AND 326 IAC 2-8-11.1, WITH CONDITIONS LISTED BELOW.

Construction Conditions

General Construction Conditions

D.16.1 This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

Effective Date of the Permit

D.16.2 Pursuant to IC 13-15-5-3, this section of this permit becomes effective upon its issuance.

D.16.3 All requirements of these construction conditions shall remain in effect unless modified in a manner consistent with procedures established for revisions pursuant to 326 IAC 2.

Operation Conditions

Note: For operating conditions, please refer to Sections D.10 through D.15.

The natural gas fired boiler certification form has been added to the permit.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
NATURAL GAS FIRED BOILER CERTIFICATION

Source Name: Aero Metals, Inc.
Source Address: 1201 E. Lincolnway, Laporte, IN 46350
Mailing Address: 402 Darlington Street, Laporte, IN 46350
FESOP Permit No.: F091-11381-00120

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Report period
Beginning: _____
Ending: _____

Boiler Affected	Alternate Fuel	Days burning alternate fuel From	To

(can omit boiler affected if only one gas boiler at this plant)

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

Conclusion

The operation of this modification to an investment casting foundry shall be subject to the conditions of the attached proposed **Significant Permit Revision for a Federally Enforceable State Operating Permit No. 091-11381-00120**.

Appendix A: Emission Calculations

Company Name: Aero Metals, Inc.
Address City IN Zip: 1201 E. Lincolnway, Laporte, IN 46350
CP: 091-11381
Plt ID: 091-00120
Reviewer: Nishat Hydari

Modification Potential Emissions - Uncontrolled (tons/year)

	Emissions Generating Activity			
Pollutant	Natural Gas Combustion	Wax Burn Out Ovens	Foundry Processes	**TOTAL**
PM	0.07	0.04	304.81	304.92
PM10	0.25	0.15	304.81	305.21
SO2	0.02	0.01	0.00	0.03
NOx	3.30	1.93	0.00	5.23
VOC	0.18	0.11	0.00	0.29
CO	2.77	1.62	0.00	4.39
total HAPs	0.00	0.00	0.00	0.00
worst case single HAP	0.00	0.00	0.00	0.00

Total emissions based on rated capacity at 8,760 hours/year.

Modification Potential Emissions - Controlled (tons/year)

	Emissions Generating Activity			
Pollutant	Natural Gas Combustion	Wax Burn Out Ovens	Foundry Processes	**TOTAL**
PM	0.07	0.04	0.08	0.19
PM10	0.25	0.15	0.08	0.48
SO2	0.02	0.01	0.00	0.03
NOx	3.30	1.93	0.00	5.23
VOC	0.18	0.11	0.00	0.29
CO	2.77	1.62	0.00	4.39
total HAPs	0.00	0.00	0.00	0.00
worst case single HAP	0.00	0.00	0.00	0.00

Total emissions based on rated capacity at 8,760 hours/year, after control.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Aero Metals, Inc.
Address City IN Zip: 1201 E. Lincolnway, Laporte, IN 46350
CP: 091-11381
Plt ID: 091-00120
Reviewer: Nishat Hydari

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
6.82	59.7

Facilities	No. of units	MMBtu/hr
Heaters	7	4.06
Heater	1	2.2
Heater	1	0.4
Water heaters	2	0.16
Total		**6.82**

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.06	0.23	0.02	2.99	0.16	2.51

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: Aero Metals, Inc.
Address City IN Zip: 1201 E. Lincolnway, Laporte, IN 46350
CP: 091-11381
Plt ID: 091-00120
Reviewer: Nishat Hydari

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
12.6	6.3

Note: The 12.553 MMBtu/hr boiler is for emergency stand by use only

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.01	0.02	0.00	0.31	0.02	0.26

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 500 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Aero Metals, Inc.
Address City IN Zip: 1201 E. Lincolnway, Laporte, IN 46350
CP: 091-11381
Plt ID: 091-00120
Reviewer: Nishat Hydari

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
4.4	38.5

Facilities	No. of units	MMBtu/hr per unit	Total MMBtu/hr
Wax Burn Out Ovens	8	0.55	4.4
Total			**4.4**

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.04	0.15	0.01	1.93	0.11	1.62

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used

Company Name: Aero Metals, Inc.
Address City IN Zip: 1201 E. Lincolnway, Laporte, IN 46350
CP: 091-11381
Plt ID: 091-00120
Reviewer: Nishat Hydari

ndry Processes

following calculations determine emissions from the foundry processes based on 8760 hours and applicant specified
mation pertaining to each PM/PM10 control device. PM10 is assumed to equal PM.

: Collection System: (5) surface grinders, (7) milling machines, (1) CNC machine

PM10:	0.000403	gr/acf outlet x	1800	acf/min x		60	min/hr /	7000	gr/lb x	4.38	ton/yr / lb/hr =	272.34	tons/yr (uncontrolled)
	where the baghouse control efficiency is listed at				99.99%							0.03	tons/yr (controlled)

: Collection System: (1) CNC machine

PM10:	3.000E-06	gr/acf outlet x	1800	acf/min x		60	min/hr /	7000	gr/lb x	4.38	ton/yr / lb/hr =	2.03	tons/yr (uncontrolled)
	where the baghouse control efficiency is listed at				99.99%							0.00	tons/yr (controlled)

or Cannister Collection System: (2) EDM mill machines, (1) solvent wash tank

PM10:	1.900E-06	gr/acf outlet x	900	acf/min x		60	min/hr /	7000	gr/lb x	4.38	ton/yr / lb/hr =	0.00	tons/yr (uncontrolled)
	where the control efficiency is listed at				0.00%							0.00	tons/yr (controlled)

: Collection System: Pneumatic Blasting

PM10:	0.00012	gr/acf outlet x	1875	acf/min x		60	min/hr /	7000	gr/lb x	4.38	ton/yr / lb/hr =	8.45	tons/yr (uncontrolled)
	where the cyclone control efficiency is listed at				99.90%							0.01	tons/yr (controlled)

one: (2) melt pots

PM10:	0.00004	gr/acf outlet x	6212	acf/min x		60	min/hr /	7000	gr/lb x	4.38	ton/yr / lb/hr =	0.19	tons/yr (uncontrolled)
	where the control efficiency is listed at				95.00%							0.01	tons/yr (controlled)

: Collector: (2) sandblasters

PM10:	0.00016	gr/acf outlet x	3600	acf/min x		60	min/hr /	7000	gr/lb x	4.38	ton/yr / lb/hr =	21.62	tons/yr (uncontrolled)
	where the cyclone control efficiency is listed at				99.90%							0.02	tons/yr (controlled)

one: (2) melt pots

PM10:	0.00004	gr/acf outlet x	6212	acf/min x		60	min/hr /	7000	gr/lb x	4.38	ton/yr / lb/hr =	0.19	tons/yr (uncontrolled)
	where the cyclone control efficiency is listed at				95.00%							0.01	tons/yr (controlled)

TOTAL = **304.81 tons/yr (uncontrolled)**
0.08 tons/yr (controlled)